

New Technology May Offer Fresh Vistas For Savings and for Educational Benefits

TAKING STOCK, SURVEYING THE DAMAGE

The recessionary pressures that have forced school leaders to make painful program and personnel cuts may also have accelerated the quest for savings through innovation -- and enhanced the allure of educational technology as a vehicle.

Online curricula, distance learning, net-books and cell phones in the classroom, and Web 2.0 tools -- think Facebook and Skype -- as a means of student collaboration have all gained luster as the drive to do more with less overlaps with the demands of educating a generation of digital natives.

Still unclear, though, is just how significant such innovations are likely to prove as a cost-cutting strategy, whatever their educational value.

It's a front-and-center issue for administrators involved in educational technology, so much so that the theme of this spring's Consortium for School Networking conference -- hosted by the Washington-based advocates for the nation's precollegiate and postsecondary chief technology officers -- is how to use the financial climate to their advantage.

"In times of a severe economic crisis,... the public sector, as well as the private sector, has been asked to rethink and be innovative," says Keith R. Krueger, the president of CoSN. "To not do everything, but to really think about what is going to move the needle. ... What can we do that will get us ten times the result at 20 percent the cost?"

Emerging Trends

Some of the emerging trends are clear.

Over the past year, districts have re-examined their policies on the use of student-owned, multifunctional smartphones, in many cases adjusting policies so that such devices can be used to achieve the 1-to-1 classroom computing-ratio desired by many technology advocates.

Meanwhile, such states as Illinois and Oregon are launching cloud-computing projects. Cloud applications are hosted on the Internet instead of an on-site network server.

In Oregon, officials estimate the state will save \$1.5 million annually after agreeing to use Google Apps. Teachers and students in the state will be able to use e-mail, documents, video, phone, and website-building tools that Google hosts on the cloud, though security concerns mean student data will be hosted elsewhere.

"Once we figure out how really secure it might be, and there's a common understanding of that, I think you're going to see cloud computing take off at a really fast rate," says Carla Wade, an educational technology specialist at the Oregon Department of Education.

Still, Wade notes that even she has questions about exactly how the cloud works. "If I don't understand it in my position," she says, "we've got a lot of work to do."

Other options, such as the use of online and so-called blended courses, the employment of digital textbooks, and online curricula, are also gaining appeal for their money-saving potential.

According to an issue brief from the National Governors Association, California has estimated potential savings in the range of \$200 million over several years from using open-source digital textbooks, though its current digital-textbook initiative does not specifically stipulate the use of open-source content.

Meanwhile, one recent survey of more than 400 high school principals found that most were interested in expanding online course offerings -- particularly to resource-intensive Advanced Placement and credit-recovery students -- despite possible misgivings about the effectiveness of online teachers.

A logical conclusion may be that cost-cutting is pushing that interest. A recent compendium by COSN supports such a view, showing the cost per student of delivering two online courses to students in Michigan's 15,000-student Walled Lake school district to be only 40 percent of the cost of delivering two traditional courses. The compendium estimates the cost of two traditional courses to be just under \$1,000. But Donald G. Knezek, the executive director of the International Society for Technology in Education, or ISTE, based in Washington, cautions that online learning is more effective at reducing spending when implemented under the right conditions, and not merely as a financial measure.

"Online professional development and online learning for low-demand courses can provide savings," Knezek says. Less clear, he says, is what educational leaders can do with technology to reduce stress on their operational budgets.

Anthony Picciano, a co-author of the principals' survey, published by the Babson Survey Research Group, based at Babson College in Wellesley, Mass., says other factors could contribute to interest in online learning. He points out that the survey found the biggest rise in online learning came in credit-recovery courses, which are seen as important from a dropout-prevention standpoint, but are often viewed as putting significant stress on teachers.

"There's incredible pressure on the part of all principals, whether primary, middle, or secondary, to get their students through the program," Picciano says. "If you look at it within the high school, frequently these students are the most difficult to teach. And now they have a vehicle that is largely dependent on technology to get them through these courses."

Booming Demand

The drive to economize is reflected in the rapidly increasing demand for connectivity on K-12 and community college campuses, says Wendy Wigen, a government-relations officer for postsecondary information-technology advocacy group Educause, which is based in Boulder, Colo.

That demand was reflected in the Federal Communications Commission's decision last year to, for the first time, index for inflation the federal E-rate program, which provides schools subsidized discounts for Internet technology.

"The need to share facilities and resources has really burgeoned as a method of saving precious funds," says Wigen, who is working on the Unified Community Anchor Network, a project that aims to help extend higher education's broadband access to libraries and public schools. "The demand for bandwidth is just skyrocketing."

That the recession arrived just as many technologies were entrenching themselves in the mainstream may have served only to enhance their perceived value as tools for cost savings.

Free Web 2.0 tools such as You-Tube (2005), the Facebook social network (2004), and the videoconferencing software Skype (2003) had been in use for some time when, in fall 2008, the financial crisis deepened the recession that officially began the preceding December. Technology experts already shared a sense of their educational potential. Similarly, cheaper, more portable laptops called netbooks hit the market before the downturn, making a budget-driven transition to the machines possible.

In the 11,000-student Daviess County, Ky., school system, Superintendent Tom Shelton and Director of Technology Matthew Constant helped found a 1-to-1 laptop-computer program for high school students in 2004. As budgets have contracted since then, the district has been able to cut machine and software costs in half by switching from laptops to netbooks. Including all add-ons, the devices now used by 3,300 students cost roughly \$800 per unit, down from \$1,600 when the program started.

"If the recession would've happened earlier,... I don't necessarily think it would've changed the technology we use as much as it may have killed the whole program," says Shelton, who had to petition the state for the right to use netbooks with state funding, and also needed those first years to show results to win more local funding. "Our board would not have been as open to making the tax levies that they did."

Experts say other savings can be gained, from more fully utilizing the technology already on campus. The range of steps may include encouraging teachers to seek available online content in place of a workbook or textbook, keeping more-thorough electronic records to eliminate paper waste, and electronically controlling the building thermostat.

"If you think about where we spend our money," COSN's Krueger says, "let's say 75 to 80 percent is on personnel, probably another 10 percent is on facility. Facility has a huge opportunity for technology to save you money."

Krueger adds that the integration of technology is more successful when healthy relationships exist between technology professionals and other school administrators, so the benefit of technology projects for other portions of the school budget can be fully explained.

Beyond that, it may depend on a shift in priorities -- and perhaps in budgetary focus.

"Our board here has said that they recognize two facts," says Shelton, the superintendent in Daviess County. "One, that kids are living in a digital world, and that's a part of who they are and a part of how they learn. And two, that's a part of what they're going to have to know when they get out of school."

"When you make that a priority," Shelton continues, "we may have to come in and evaluate our budget and say, well, there's something else that may have to go. ... You can't always look for new dollars. You've got to look to be creative with your own funds."

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KEITH R. KRUEGER President Consortium for School Networking

Leveraging Digital Tools to Save Costs

Web-based strategies and technologies may add educational value while offering the promise of greater operational efficiency.

• MOBILE DEVICES:

Piggybacking on the widespread ownership of smartphones and other hand-held devices by students across the socioeconomic spectrum to boost access to online educational content and move closer to the goal of 1-to-1 computing without big new investment in laptops and netbooks.

• CLOUD COMPUTING:

Using Web-based, rather than school-based, servers to host everything from office e-mail and school business documents to student and employee records, allowing the central office to cut down on a host of technology-based hardware and utility costs.

• SOCIAL NETWORKING:

Utilizing tools such as Facebook and Skype to expand the classroom community beyond school hours without a big investment in infrastructure. Benefits can include greater teacher-student interaction, online discussions, and the development of professional learning communities among teachers.

• DISTANCE LEARNING:

Offering online courses in such labor-intensive, specialized, and/or hard-to-staff subjects as foreign languages, Advanced Placement in rural areas, and credit recovery.

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Alaska

- State Population, 2009 (U.S. Census Bureau):

698,473

- Unemployment Rate, Sept. 2010 (U.S. Bureau of Labor Statistics):

7.7%

- Pre-K-12 Student Enrollment, 2008-09 (National Center for Education Statistics):

130,662

- Per-Pupil Expenditures, 2008 (National Center for Education Statistics):

\$14,641

- State cuts in K-12 or early-education funding since recession began (Center on Budget and Policy Priorities):

No SWEET SITUATION: Jess Knueppel, 20, works the counter at Modern Dwellers Chocolate Lounge in Anchorage, Alaska, which features hand-dipped chocolate truffles along with chocolate drinks. Alaska, which has weathered the recession in stable fiscal shape, was at one end of the spectrum in the recent economic downturn that had a varied impact across the nation.

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By Ian Quillen